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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,740

11/26/2003

Peter Peumans

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MCDERMOTT WILL & EMERY LLP
2049 CENTURY PARK EAST
38th Floor
LOS ANGELES, CA 90067-3208

EXAMINER

MAYEKAR, KISHOR

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/722,740	Applicant(s) PEUMANS ET AL.	
	Examiner Kishor Mayekar	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 8, 9 and 11-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-7 and 10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vachon et al. (US 6,340,421 B1). Vachon's invention is directed to "a method for microgravimetrically depositing an electroactive species onto an electrode comprising dispensing a solution containing the electroactive species from a microdispenser to form a hanging drop of the solution and contacting the electrode with the hanging drop of the solution, wherein the electrode is electrically coupled with the microdispenser to form an electrochemical cell, and applying a potential to the electrochemical cell" (see abstract). Vachon discloses in Example 1 the use of a small amount of enzyme plating solution (0.5-10 microliters) containing about 6.25 wt% enzymes and in Example 2 with 5 wt% enzymes, wherein enzyme is the electroactive species. The difference between Vachon and the

above claims is the recited concentration range. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Vachon's teachings because optimization through routine experimentation has been held to be obvious, *In re Aller* 105USPQ 233 (see MPEP 2144.05.II.A).

As to the subject matter of claim 2, Vachon discloses that the volume of the solution is from 0.5 to 10 microliters (0.5 to 10 mm³, since 1 cc is equal to 1 ml), which is within the claimed range.

As to the subject matter of claim 3, assuming the drop is in the shape of a sphere, with a volume of 1 mm³ for example, the radius of the sphere is also within the claimed range.

The same is applied to the subject matter of each of claims 4-6 when Vachon discloses the voltage applied between 0.05 to 15 Volts for about 30 to 60 seconds (c. 4, l. 28-38 and Examples 1 and 2).

As to the subject matter of claim 10, Vachon's microdispenser reads on the recited housing.

4. Claims 1-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trau et al. (US 5,855,753), a reference cited in the last Office action. Trau's invention is directed to a method for electrophoretically depositing particles onto an electrode and electrohydrodynamically assembling the particles into crystalline structures. Trau

discloses that the method comprises all the steps as claimed (Fig. 1 and col. 4, lines 20-42). Trau as applied above further disclose that the method is suitable to assemble macromolecules such as protein and DNA strands (paragraphs 1 and 4 of c. 13), the use of a dilute solution (c. 4, l. 55-62), and the construction of materials with structural features existing on the 1-1000 nm size (c. 1, l. 18-20). The difference between Trau and the above claims is the recited concentration range. The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Trau's teachings because optimization through routine experimentation has been held to be obvious, *In re Aller* 105USPQ 233 (see MPEP 2144.05.II.A). The same is applied to the subject matter of each of claims 3 and 6.

As to the subject matter of claim 4, Trau discloses it in paragraph 5 of c. 5.

As to the subject matter of claim 5, Trau discloses it in Fig. 5F.

As to the subject matter of claim 10, Trau discloses it in c. 4, l. 20-34.

Response to Arguments

5. Applicant's arguments filed 9 July 2008 have been fully considered but they are not persuasive in view of the new ground of rejections.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kishor Mayekar whose telephone number is (571) 272-1339. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kishor Mayekar/
Primary Examiner, Art Unit 1795